

WHAT IS CLAIMED AS NEW AND DESIRED TO BE SECURED BY LETTERS  
PATENT OF THE UNITED STATES IS:

1. A polygon mirror scanner comprising:  
a rotor comprising:  
    a rotating shaft,  
    a polygon mirror having a regular prism and having a mirror surface on each side thereof, and  
    a magnet,  
a bearing device rotatably bearing the rotor and comprising:  
    a radial bearing,  
    a thrust bearing, and  
    a stator yoke, and  
a stator comprising:  
    a coil facing the magnet with a predetermined distance therebetween,  
wherein the radial bearing and the thrust bearing are each replaceable.
2. The polygon mirror scanner of Claim 1, wherein the radial bearing is fixed with a fixing member.
3. The polygon mirror scanner of Claim 1, wherein the radial bearing further comprises a screw groove on a peripheral surface thereof.
4. The polygon mirror scanner of Claim 2, wherein the fixing member is configured to attach to the stator yoke by a screw groove on a peripheral surface of the fixing member to facilitate the replacement of the radial bearing.
5. The polygon mirror scanner of Claim 1, wherein the stator yoke further comprises a cylindrical central hole being concentric with the rotating shaft and having a screw groove on an inner circumferential surface such that the radial bearing screws into the screw groove.
6. The polygon mirror scanner of Claim 5, wherein the radial bearing further comprises a screw groove so as to screw into the screw groove of the inner circumferential

surface of the cylindrical central hole.

7. The polygon mirror scanner of Claim 1, further comprising:

a standard portion comprising a control base plate having a standard surface, wherein the standard portion is configured to vertically stabilize the radial bearing using the standard surface of the control base plate.

8. The polygon mirror scanner of Claim 7, wherein a surface of the cylindrical central hole serves as the standard surface of the standard portion.

9. The polygon mirror scanner of Claim 7, wherein the radial bearing has a collar on a peripheral surface thereof serving as the standard surface of the standard portion.

10. The polygon mirror scanner of Claim 9, wherein the radial bearing comprises a collar on a bottom peripheral surface thereof in a circumferential direction thereof.

11. The polygon mirror scanner of Claim 7, wherein a bottom surface of the cylindrical central hole of the stator yoke serves as the standard surface of the standard portion.

12. The polygon mirror scanner of Claim 1, wherein the stator yoke comprises a collar on an inner circumferential surface thereof in a circumferential direction thereof.

13. The polygon mirror scanner of claim 1, wherein the radial bearing and the thrust bearing are each individually and separately detachable from the stator yoke.

14. A bearing device, having a convex cylindrical shape, comprises:

a stator yoke having a cylindrical central hole concentrically and axially with a rotating shaft and forming a circumferential bearing building screw on top and a thrust groove on the bottom,

a radial bearing, having a cylindrical central hole concentrically and axially with the rotating shaft and forming a circumferential bearing screw on a peripheral surface thereof on top and a building groove on a top surface thereof, and

a thrust bearing fixed on the thrust groove, wherein the radial bearing is inserted into the cylindrical central hole in the stator yoke, the radial bearing is attached to the cylindrical bearing building screw, and the building groove on the top surface of the radial bearing is a tool groove when the radial bearing is attached to the circumferential screw, and, when the screws formed on the radial bearing are attached to the screw formed on the stator yoke, the radial bearing is easily detachable from the stator yoke.

15. The bearing device of claim 14, further comprising the radial bearing being configured to contact a bearing stopper, allowing the radial bearing to be vertically fixed to a control base plate.

16. The bearing device of claim 14, further comprising a standard portion comprising the control base plate having a standard surface, wherein the standard portion is configured to vertically stabilize the radial bearing using the standard surface of the control base plate.

17. The bearing device of claim 16, wherein the surface of the cylindrical central hole serves as the standard surface of the standard portion.

18. The bearing device of claim 16, wherein the radial bearing has a collar on a peripheral surface thereof serving as the standard surface of the standard portion.